

Attorney Docket Number: FSP0154
Client Reference Number: 265751USCIP
Title: DYNAMIC QUALITY ADJUSTMENT BASED ON CHANGING STREAMING CONSTRAINTS
Application Number: 09/653,039

-10-

REMARKS

In an office action mailed on 01/09/2006, claims 53-56, 61-63, 65, 71-74, and 79-81 are rejected under 35 USC 102(b) as anticipated by Forler (5,327,176); claims 57-60 are rejected under 35 USC 103(a) as unpatentable over Forler in light of Safadi (6,487,721).

Claims 53, 61, 65, 71, and 79-81 recite something quite different than what is taught in Forler. Specifically, please note the more specific description in the claims of what comprises a stream server. The claims are directed to methods of managing streams and stream bandwidth involving actions taken by a stream server, e.g. a device that provides the streams or causes the streams to be provided from stored audio/video files.

Forler teaches a client device that mutes by breaking the connection to the audio output. The muting is implemented without any action taken by the stream server, if there is one.

Audio signal processing channel 150 processes audio component AUDIO IN to produce a signal AUDIO. An audio mute function is provided by an audio switch 160 which operates in response to a signal MUTE. During the normal audio reproduction mode of operation, signal MUTE is at the logic 0 level causing switch 160 to couple signal AUDIO to an audio output in order to produce an audio output signal AUDIO OUT. When the audio muting function is enabled, signal MUTE is caused to be at the logic 1 level and switch 160 is, as a result, caused to decouple signal AUDIO from the audio output and to couple signal ground to the audio output instead. This prevents an audio response from being produced. (Forler, Col. 2, line 65 - Col. 3, line 11, emphasis added)

Attorney Docket Number: FSP0154
Client Reference Number: 265751USCIP
Title: DYNAMIC QUALITY ADJUSTMENT BASED ON CHANGING STREAMING CONSTRAINTS
Application Number: 09/653,039

- 11 -

Claim 53 recites, inter alia, implementing the client requested presentation action (such as muting) including reducing the data rate of the first data stream or eliminating the transmission of the first data stream to the client device. The most recent office action indicated that the term "stream server" was construed broadly to include devices such as the audio switch of Forler. The applicant has amended the claims to more clearly specify that a stream server is a device that provides or causes to be provided data streams from audio/video files. This distinction precludes the audio switch of Forler.

Forler implements muting by simply disconnecting the audio output of the client device; the stream providing the audio is not manipulated. Forler does not address implementation of muting at the stream server. Forler does not teach or suggest a stream server reducing or eliminating transmission of the data stream to the client device to provide muting. Neither does Safadi (nor is Safadi relied upon in this regard).

Claim 53 further recites determining an amount that a data rate of a second data stream including data of a second type maybe increased as a result of an effect on transmission bandwidth corresponding to the reduction in the data rate of the first data stream or the elimination of the first data stream.

Forler does not teach or suggest determining an amount that a data rate of a second data stream may be increased. Forler merely teaches that closed captioning is toggled on or off when audio is disabled or enabled, respectively:

The office action indicates that the claims do not specify details of the "determining"; however, this is not the case. The claims clearly specify determining an amount that a data rate of a second stream may be increased. No such determination is taught or even suggested in Forler.

To enable and disable the "closed caption with audio" mode of operation, decode and control unit 140 toggles the present state of signal CCEN in a manner similar to that described with respect to control signal MUTE.

Attorney Docket Number: FSP0154
Client Reference Number: 265751USCIP
Title: DYNAMIC QUALITY ADJUSTMENT BASED ON CHANGING STREAMING CONSTRAINTS
Application Number: 09/653,039

-12-

Decode and control unit 140 also controls both of signals CCEN and MUTE together in order to provide a new mode of operation referred to as the "closed caption with mute" mode in which the closed captioning function is automatically enabled and disabled in response to enabling and disabling, respectively, the muting function. (Forler, Col. 3, line 45 - Col. 4, line 23, emphasis added).

Again, Forler does not disclose determining an amount that the close captioning stream data rate may be increased. Forler merely teaches switching on closed captioning when audio is muted; no determination of data rate effects is performed. Nor does Safadi provide such a teaching (nor is it relied upon for such).

Claim 53	Forler
Determine an amount that a data rate of a second data stream may be increased	No determination of amount of increase in data rate of close captioning; simply toggle close captioning on or off
As a result of an effect on transmission bandwidth corresponding to the reduction/elimination in the data rate of the first data stream	No determination of amount of increase in data rate of close captioning that can result from reducing/eliminating the audio stream; simply toggle close captioning on or off
Reducing/eliminating the data rate of the first data stream from the server to the client device	Disconnecting the audio input of the client device from the audio output of the client device

Claim 79 is distinct over Forler and/or Safadi for at least these same reasons.

Claim 61 recites, inter alia, receiving an indication of a client requested presentation action that involves reducing a data rate of a first data stream being sent

Attorney Docket Number: FSP0154
Client Reference Number: 265751USCIP
Title: DYNAMIC QUALITY ADJUSTMENT BASED ON CHANGING STREAMING
CONSTRAINTS
Application Number: 09/653,039

-13-

from the stream server to the client device or eliminating the transmission of the first data stream to the client device.

Forler does not address implementation of muting at the stream server by reducing or eliminating a data rate of a data stream being sent from the stream server to the client device. The audio switch of Forler does not qualify as a “stream server” under the more specific description of “stream server” provided in the claims.

Claim 61 further recites determining whether a third data stream may be streamed as a result of an effect on transmission bandwidth corresponding to the reduction in the data rate of the first data stream or the elimination of the first data stream. The claim has been amended to address the comments in the office action regarding the patentable weight of the third stream (the first and second streams are now explicitly recited).

Neither Forler nor Safadi teach determining whether a third data stream may be streamed as a result of an effect on transmission bandwidth. No determination based upon resulting bandwidth effects is taught; rather, the closed captioning function is automatically enabled and disabled in response to enabling and disabling, respectively, the muting function. Also, no determination of whether a third stream may be streamed is taught.

Claim 61	Forler
Determining whether a third data stream may be streamed from a stream server to a client device	No determination of whether close captioning may be <u>streamed</u> from server to the client device; simply toggle close captioning on or off
As a result of an effect on transmission bandwidth corresponding to the reduction in the data rate of the first data stream or	No determination of <u>whether close captioning may be streamed from server to client as a result of reducing/eliminating</u>

Attorney Docket Number: FSP0154
 Client Reference Number: 265751USCIP
 Title: DYNAMIC QUALITY ADJUSTMENT BASED ON CHANGING STREAMING CONSTRAINTS
 Application Number: 09/653,039

-14-

the elimination of the first data stream.	<u>the audio stream</u> ; simply toggle close captioning on or off
Reducing/eliminating the data rate of the first data stream from the server to the client device	Disconnecting the audio input of the client device from the audio output of the client device

Claim 80 is distinct over Forler/Safadi for at least these same reasons.

Claim 65 recites, inter alia, determining an amount that a data rate of a second data stream should be reduced as a result of an effect on transmission bandwidth corresponding to the increase in the data rate of a first data stream. Forler provides no such teaching of these various aspects (see remarks for claim 61).

Claim 65	Forler
Increasing the data rate of a first stream to the client device	Teaches toggling close captioning on or off; no teaching of increasing the stream data rate of close captioning
<u>Determining an amount</u> that <u>a data rate</u> of a second data stream should be reduced	Toggle close captioning on or off according to mute state; no determination of how much audio data rate should be reduced
as a result of an effect on transmission bandwidth corresponding to the increase in the data rate of a first data stream	no determination how much data rate of audio should be reduced as a result of providing close captioning

Claim 81 is distinct over Forler/Safadi for at least these same reasons.

Attorney Docket Number: FSP0154
Client Reference Number: 265751USCIP
Title: DYNAMIC QUALITY ADJUSTMENT BASED ON CHANGING STREAMING
CONSTRAINTS
Application Number: 09/653,039

-15-

Claim 71 recites, inter alia, stream server logic to determine an amount that a rate of a second data stream having a second type should be changed as a result of bandwidth effects of the changed rate for the first data stream. Claim 71 is distinguished over Forler, alone or in combination with Safadi, for at least the reasons provided for claims 53, 61, and 65.

Claim 56 (claim 74 is similar) recites, inter alia, determining an amount of bandwidth that is freed up by reducing the data rate of the first data stream or eliminating the first data stream. No such determination is taught by Forler (or Safadi).

Claim 58 is distinguished over the cited references for at least the reasons cited for base claim 53. Claim 58 further recites, inter alia, including both said first and second data streams in different Single Program Transport Streams. Combining the teachings of Forler with Safadi would produce something far different than the claimed material, at least because Forler deals with mute/close caption control for a single program stream, without knowledge or effect on close captioning for other program streams. There is simply no suggestion in Forler of, for example, of muting of audio for a first program stream (e.g. a first program) and thus affecting the data rate of close captioning for a second program stream (provided to and possibly tuned by a second client device – see claims 60, 64, 69, and 78). Forler simply does not contemplate actions of the client device affecting other program streams in this way, and is thus entirely unsuitable for combination with Safadi to produce the material of claim 58.

Claim 58	Forler	Safadi
Reducing/eliminating a data rate of a first data stream being sent from the stream	Toggling close captioning for a program according to whether audio for the	Teaches combining single program streams into a multiple program stream.

Attorney Docket Number: FSP0154
 Client Reference Number: 265751USCIP
 Title: DYNAMIC QUALITY ADJUSTMENT BASED ON CHANGING STREAMING CONSTRAINTS
 Application Number: 09/653,039

-16-

server to the client device	program is muted; toggling is accomplished by disconnecting client input from client output (e.g. toggling occurs at the client, not at the stream server).	Combining with Forler results in a system wherein muting a program stream at the client device results in close captioning being enabled for that program stream at the client device, but has no effect on other program streams of the multi-program stream.
determining an amount that a data rate of a second data stream including data of a second type may be increased as a result	No teaching or suggestion of muting a program stream by the client affecting close captioning for a different program stream than the one that was muted.	
including both said first and second data streams in different Single Program Transport Streams		

Claims 68 and 76 are distinct over the cited references for at least these same reasons.

Claim 59 is distinguished over the cited references for at least the reasons cited for base claim 53. Claim 59 further recites providing a stream of packets as part of a packet flow to a modified multiplexing device, the multiplexer filtering the stream of packets to reduce or eliminate the data rate of the first data stream. Safadi teaches the multiplexer performing ad insertion in MPEG packet streams (e.g. digital ad insertion at cue command locations in the packet stream). Using a multiplexer for digital ad insertion is not the same thing as using a multiplexer to filter a stream of packets to reduce or eliminate the data rate of the stream.

Attorney Docket Number: FSP0154
 Client Reference Number: 265751USCIP
 Title: DYNAMIC QUALITY ADJUSTMENT BASED ON CHANGING STREAMING CONSTRAINTS
 Application Number: 09/653,039

-17-

The MPTS is provided to the inserter(s) 140 when it is desired to insert either commercials and/or cue commands in accordance with the present invention.... The inserter, in turn, determines whether to insert a commercial or pass the MPTS through intact (e.g., unchanged). The inserter's decision is based on the presence of the cue command (or lack thereof)...

Rate adaptation, as described, may take place in advance of the commercial, and as such may be facilitated as an off-line, non-real time process.(Safadi, Col. 4, lines 45-67, and Safadi, Col. 5, lines 30-50)

Safadi describes rate adaptation for commercial content, whereby the commercial content is adjusted to have the same data rate as the program packet stream before insertion therein. Again, this is not the same thing as using the multiplexer (e.g. inserter) to filter a stream of packets to reduce or eliminate the data rate of the stream. Rather, rate adaptation as described in Safadi refers to adapting the rate of commercial content to be the same data rate as the packet stream into which it will be inserted.

Claim 59	Safadi
the act of reducing the data rate of the first data stream or eliminating the transmission of the first data stream to the client device includes	No teaching of the multiplexer (inserter) filtering the stream of packets to reduce or eliminate the data rate of the data stream.
a multiplexer filtering the stream of packets to reduce or eliminate the data rate of the first data stream	Instead, teaches ad insertion at cue positions in the packet stream, and rate adaptation of the inserted ad content to the data rate of the program (packet) stream.

Attorney Docket Number: FSP0154
Client Reference Number: 265751USCIP
Title: DYNAMIC QUALITY ADJUSTMENT BASED ON CHANGING STREAMING
CONSTRAINTS
Application Number: 09/653,039

-18-

Furthermore, filtering to eliminate the audio at the multiplexer (upstream from the client device) as recited in claim 59 removes any motivation to apply Forler. Why disconnect the audio input and output at the client, when the audio stream has already been eliminated upstream via the multiplexer?

Claims 70 and 77 are distinguished over the cited references for at least the same reasons.

Regarding claims 60, 64, 69, and 78, Forler simply does not contemplate that the second stream (e.g. close captioning information) would be rate adjusted and provided to another client device, according to muting of the audio stream at the client device. Safadi also provides no teaching or suggestion of such a thing.

Conclusion

For at least these reasons, the claimed subject matter is distinguished over the cited prior art, and all claims should be allowed.

Signature	/Charles A. Mirho/ Charles A. Mirho Reg. 41,199 Attorney for Applicant	Date: 4/10/2006
-----------	---------------------------------------------------------------------------------	-----------------

Address all correspondence to:
FSP LLC
Attn: Charles A Mirho
P.O. Box 890
Vancouver, WA 98666-0890
USA

Phone: 360-737-1748

Attorney Docket Number: FSP0154
Client Reference Number: 265751USCIP
Title: DYNAMIC QUALITY ADJUSTMENT BASED ON CHANGING STREAMING
CONSTRAINTS
Application Number: 09/653,039

-19-

Fax: 360-294-6426